

ACOUSTIC QUALITY ENHANCEMENT VIA FEEDBACK AND EQUALIZATION FOR MOBILE MULTIMEDIA SYSTEMS

ABSTRACT

A method of enhancing the audio quality in a reproduction medium having unknown characteristics. With this method a predetermined finite set of single frequency tones are generated and these tones are then passed through the reproduction medium to generate an output signal, which in turn is passed through a set of sub-band filters. Each of the sub-band filters pass at least a frequency corresponding to one of the tones in the set of tones. The characteristics of the reproduction medium is then estimated as a result of passing the output signal through the set of sub-band filters. Based on the estimated characteristics of the reproduction medium, a set of sub-band inverse filters are constructed. Finally before passing the audio signal through the reproduction medium the signal is passed through the set of inverse filters to improve the quality of the audio signal after it passes through the reproduction medium.